CERTIFICATE OF ANALYSIS

REPORTED TO	Campbell Scientific Canada Corp. 1030 Sugar Lake Rd Cherryville, BC V0E 2G2		
ATTENTION	Claude Labine	**WORK ORDER**	24H3806
PO NUMBER		**RECEIVED / TEMP**	2024-08-28 12:56 / 12.1°C
PROJECT	Cherryville Water Stewart	**REPORTED**	2024-09-05 08:12
PROJECT INFO		**COC NUMBER**	No Number

Introduction:

CARO Analytical Services is a testing laboratory full of smart, engaged scientists driven to make the world a safer and healthier place. Through our clients' projects we become an essential element for a better world. We employ methods conducted in accordance with recognized professional standards using accepted testing methodologies and quality control efforts. CARO is accredited by the Canadian Association for Laboratories Accreditation (CALA) to ISO/IEC 17025:2017 for specific tests listed in the scope of accreditation approved by CALA.

Big Picture Sidekicks

You know that the sample you collected after snowshoeing to site, digging 5 meters, and racing to get it on a plane so you can submit it to the lab for time sensitive results needed to make important and expensive decisions (whew) is VERY important. We know that too.

We've Got Chemistry

It's simple. We figure the more you enjoy working with our fun and engaged team members; the more likely you are to give us continued opportunities to support you.

Ahead of the Curve

Through research, regulation knowledge, and instrumentation, we are your analytical centre for the technical knowledge you need, BEFORE you need it, so you can stay up to date and in the know.

By engaging our services, you are agreeing to CARO Analytical Service's Standard Terms and Conditions outlined here: https://www.caro.ca/terms-conditions

If you have any questions or concerns, please contact me at TeamCaro@caro.ca

Authorized By:

Team CARO
Client Service Representative

CARO ANALYTICAL SERVICES

TEST RESULTS

REPORTED TO	Campbell Scientific Canada Corp.	**WORK ORDER**	24H3806
PROJECT	Cherryville Water Stewart	**REPORTED**	2024-09-05 08:12

Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Shuswap River @ Sihlis Road (24H3806-01) | Matrix: Water | Sampled: 2024-08-28 08:47						
Anions						
Chloride	**0.11**	AO ≤ 250	0.10	mg/L	2024-08-29	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2024-08-29	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-08-29	
Sulfate	**3.5**	AO ≤ 500	1.0	mg/L	2024-08-29	
Calculated Parameters						
Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**0.0630**	N/A	0.0500	mg/L	N/A	
General Parameters						
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2024-08-30	
Conductivity (EC)	**71.6**	N/A	2.0	µS/cm	2024-08-29	
Nitrogen, Total Kjeldahl	**0.063**	N/A	0.050	mg/L	2024-09-03	
pH	**6.97**	7.0-10.5	0.10	pH units	2024-08-29	HT2
Phosphorus, Total (as P)	**0.0217**	N/A	0.0050	mg/L	2024-08-30	
Turbidity	**0.45**	OG < 1	0.10	NTU	2024-08-29	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**> 2420**	MAC = 0	1	MPN/100 mL	2024-08-29	
E. coli (Q-Tray)	< 1	MAC = 0	1	MPN/100 mL	2024-08-29	
Enterococcus	**1.0**	N/A	1.0	MPN/100 mL	2024-08-29	
Reiter Creek @ Shuswap River (24H3806-02) | Matrix: Water | Sampled: 2024-08-28 08:50						
Anions						
Chloride	**0.15**	AO ≤ 250	0.10	mg/L	2024-08-29	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2024-08-29	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-08-29	
Sulfate	**8.3**	AO ≤ 500	1.0	mg/L	2024-08-29	
Calculated Parameters						
Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**0.123**	N/A	0.0500	mg/L	N/A	
General Parameters						
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2024-08-30	
Conductivity (EC)	**208**	N/A	2.0	µS/cm	2024-08-29	
Nitrogen, Total Kjeldahl	**0.123**	N/A	0.050	mg/L	2024-09-03	
pH	**8.05**	7.0-10.5	0.10	pH units	2024-08-29	HT2
Phosphorus, Total (as P)	**0.0129**	N/A	0.0050	mg/L	2024-08-30	
Turbidity	**5.76**	OG < 1	0.10	NTU	2024-08-29	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**2420**	MAC = 0	1	MPN/100 mL	2024-08-29	
E. coli (Q-Tray)	**35**	MAC = 0	1	MPN/100 mL	2024-08-29	

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Reiter Creek @ Shuswap River (24H3806-02) | Matrix: Water | Sampled: 2024-08-28 08:50, Continued						
Microbiological Parameters, Continued						
Enterococcus	**72**	N/A	1.0	MPN/100 mL	2024-08-29	
Cherry Creek @ Shuswap River (24H3806-03) | Matrix: Water | Sampled: 2024-08-28 09:05						
Anions						
Chloride	**1.05**	AO ≤ 250	0.10	mg/L	2024-08-29	
Nitrate (as N)	**0.022**	MAC = 10	0.010	mg/L	2024-08-29	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-08-29	
Sulfate	**13.6**	AO ≤ 500	1.0	mg/L	2024-08-29	
Calculated Parameters						
Nitrate+Nitrite (as N)	**0.0217**	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**0.118**	N/A	0.0500	mg/L	N/A	
General Parameters						
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2024-08-30	
Conductivity (EC)	**225**	N/A	2.0	µS/cm	2024-08-29	
Nitrogen, Total Kjeldahl	**0.096**	N/A	0.050	mg/L	2024-09-03	
pH	**8.12**	7.0-10.5	0.10	pH units	2024-08-29	HT2
Phosphorus, Total (as P)	**0.0060**	N/A	0.0050	mg/L	2024-08-30	
Turbidity	**0.75**	OG < 1	0.10	NTU	2024-08-29	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**2420**	MAC = 0	1	MPN/100 mL	2024-08-29	
E. coli (Q-Tray)	**38**	MAC = 0	1	MPN/100 mL	2024-08-29	
Enterococcus	**43**	N/A	1.0	MPN/100 mL	2024-08-29	
Ferry Creek @ Shuswap River (24H3806-04) | Matrix: Water | Sampled: 2024-08-28 09:14						
Anions						
Chloride	**0.89**	AO ≤ 250	0.10	mg/L	2024-08-29	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2024-08-29	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-08-29	
Sulfate	**29.5**	AO ≤ 500	1.0	mg/L	2024-08-29	
Calculated Parameters						
Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**0.111**	N/A	0.0500	mg/L	N/A	
General Parameters						
Ammonia, Total (as N)	**0.050**	None Required	0.050	mg/L	2024-08-30	
Conductivity (EC)	**326**	N/A	2.0	µS/cm	2024-08-29	
Nitrogen, Total Kjeldahl	**0.111**	N/A	0.050	mg/L	2024-09-03	
pH	**8.28**	7.0-10.5	0.10	pH units	2024-08-29	HT2

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TEST RESULTS

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Analyte	Result	Guideline	RL	Units	Analyzed	Qualifier
Ferry Creek @ Shuswap River (24H3806-04) | Matrix: Water | Sampled: 2024-08-28 09:14, Continued						
General Parameters, Continued						
Phosphorus, Total (as P)	**0.0093**	N/A	0.0050	mg/L	2024-08-30	
Turbidity	**0.27**	OG < 1	0.10	NTU	2024-08-29	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**2420**	MAC = 0	1	MPN/100 mL	2024-08-29	
E. coli (Q-Tray)	**99**	MAC = 0	1	MPN/100 mL	2024-08-29	
Enterococcus	**49**	N/A	1.0	MPN/100 mL	2024-08-29	
Shuswap River @ BC Hydro site (24H3806-05) | Matrix: Water | Sampled: 2024-08-28 09:31						
Anions						
Chloride	**0.42**	AO ≤ 250	0.10	mg/L	2024-08-29	
Nitrate (as N)	< 0.010	MAC = 10	0.010	mg/L	2024-08-29	
Nitrite (as N)	< 0.010	MAC = 1	0.010	mg/L	2024-08-29	
Sulfate	**7.1**	AO ≤ 500	1.0	mg/L	2024-08-29	
Calculated Parameters						
Nitrate+Nitrite (as N)	< 0.0100	N/A	0.0100	mg/L	N/A	
Nitrogen, Total	**0.110**	N/A	0.0500	mg/L	N/A	
General Parameters						
Ammonia, Total (as N)	< 0.050	None Required	0.050	mg/L	2024-08-30	
Conductivity (EC)	**124**	N/A	2.0	µS/cm	2024-08-29	
Nitrogen, Total Kjeldahl	**0.110**	N/A	0.050	mg/L	2024-09-03	
pH	**7.58**	7.0-10.5	0.10	pH units	2024-08-29	HT2, RE2
Phosphorus, Total (as P)	**0.0068**	N/A	0.0050	mg/L	2024-08-30	
Turbidity	**0.31**	OG < 1	0.10	NTU	2024-08-29	
Microbiological Parameters						
Coliforms, Total (Q-Tray)	**> 2420**	MAC = 0	1	MPN/100 mL	2024-08-29	
E. coli (Q-Tray)	**20**	MAC = 0	1	MPN/100 mL	2024-08-29	
Enterococcus	**58**	N/A	1.0	MPN/100 mL	2024-08-29	

Sample Qualifiers:

HT2 The 15 minute recommended holding time (from sampling to analysis) has been exceeded - field analysis is recommended.

RE2 Result was confirmed by re-analysis prior to reporting.

APPENDIX 1: SUPPORTING INFORMATION

REPORTED TO	Campbell Scientific Canada Corp.	**WORK ORDER**	24H3806
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Analysis Description	Method Ref.	Technique	Accredited	Location
Ammonia, Total in Water	SM 4500-NH3 G* (2021)	Automated Colorimetry (Phenate)	✓	Kelowna
Anions in Water	SM 4110 B (2020)	Ion Chromatography	✓	Kelowna
Coliforms, Total in Water	SM 9223 (2016)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Conductivity in Water	SM 2510 B (2021)	Conductivity Meter	✓	Kelowna
E. coli in Water	SM 9223 (2016)	Quanti-Tray / Enzyme Substrate Endo Agar	✓	Kelowna
Enterococcus in Water	SM 9230 D (2022)	Quanti-Tray / Fluorogenic Substrate Enterococcus Test		Kelowna
Nitrogen, Total Kjeldahl in Water	SM 4500-Norg D* (2021)	Block Digestion and Flow Injection Analysis	✓	Kelowna
pH in Water	SM 4500-H+ B (2021)	Electrometry	✓	Kelowna
Phosphorus, Total in Water	SM 4500-P B.5* (2011) / SM 4500-P F (2021)	Persulfate Digestion / Automated Colorimetry (Ascorbic Acid)	✓	Kelowna
Turbidity in Water	SM 2130 B (2020)	Nephelometry	✓	Kelowna

Note: An asterisk in the Method Reference indicates that the CARO method has been modified from the reference method

Glossary of Terms:

RL	Reporting Limit (default)
<	Less than the specified Reporting Limit (RL) - the actual RL may be higher than the default RL due to various factors
>	Greater than the specified Result
AO	Aesthetic Objective
MAC	Maximum Acceptable Concentration (health based)
mg/L	Milligrams per litre
MPN/100 mL	Most Probable Number per 100 millilitres
NTU	Nephelometric Turbidity Units
OG	Operational Guideline (treated water)
pH units	pH < 7 = acidic, ph > 7 = basic
µS/cm	Microsiemens per centimetre
SM	Standard Methods for the Examination of Water and Wastewater, American Public Health Association

Guidelines Referenced in this Report:

Guidelines for Canadian Drinking Water Quality (Health Canada, September 2022)

Note: In some cases, the values displayed on the report represent the lowest guideline and are to be verified by the end user

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PROJECT	Cherryville Water Stewart	**REPORTED**	2024-09-05 08:12

General Comments:

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Results in **Bold** indicate values that are above CARO's method reporting limits. Any results that are above regulatory limits are highlighted **red**. Please note that results will only be highlighted red if the regulatory limits are included on the CARO report. Any Bold and/or highlighted results do not take into account method uncertainty. If you would like method uncertainty or regulatory limits to be included on your report, please contact your Account Manager:TeamCaro@caro.ca

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